

REMARKS

The claims under examination are 1-6, 8-10 and 13. The examiner is thanked for his suggestions for correcting claim syntax which have been adopted.

Further, the claims have been amended to recite "consisting of" instead of "consisting *essentially* of." There should be no confusion as to what this means.

The claims stand rejected as follows:

- (1) Claims 1, 3, 4, and 8 to 10 under 35 USC 102(b) over Johnson (US 5,139,854).
- (2) Claims 1, 3 5-8 and 13 under 35 USC 103(a) over Ellison (US 5,342,666) in view of Johnson (*supra*).
- (3) Claim 2 under 35 USC § 103(a) over Johnson (*supra*), alone.
- (4) Claim 5 under 35 USC § 103(a) over Johnson (*supra*) in view of Miyakoshi (US 5,827,788).

Preliminarily, the object of applicants' invention was to achieve a novel layered composite having a high stability against delamination or swelling due to the influence of chemical solvents or steam, mechanical damage or thermal treatment. See, *inter alia* spec., page 5 lines 16-20 and the results of the testing in the examples as explained in the section bridging pages 5 and 6. Such layered composites are particularly useful for floor coverings or wall panels and further for surface materials for automotive construction and for the electrical industry (Cf. page 5, lines 34-35).

In this particular art, the conventional practice for increasing the strength between layered bonding is to utilize primer layers or adhesives. Note e.g. the required "*adhesives*" Ellison as set forth in his claims (e.g. col. 8 lines 56-57), discussed in his

specification (e.g., col 5, lines 63-65) and demonstrated all of his examples (e.g., "an acrylic adhesive" col. 7, lines 57-58.)

Applicants' invention, in contrast thereto, avoids any additional primer layer or other chemical compounds such as adhesives or hot melts or whatever, *but is limited to the presence of three layers* (via the "consisting of" in the claims), namely the decorative layer, the heat-cured layer and the backing layer, additionally only the intermediate layer consisting of impregnated paper or a non-woven (see page 4, line 7). Any coatings or primers or other chemical compositions have to be avoided and excluded. Although the delamination resistance of the resulting layered composite must be as high as possible. The reason for this limitation is that recycling problems appear especially in the automotive and electric industries. Every foreign chemical compound, disregarding whether it is present in very small amounts or not, results in the whole car or the whole electrical apparatus being classified into another pollution class making its recycling more complicated and, as a matter of course, more expensive. Moreover, and not insignificantly, the taste and/or odor of solvents in such prior art structures, is avoided, particularly under the influence of heat and enclosed spaces, such as in vehicles in the summertime.

Under these circumstances, applicants' results are surprising and unexpected, and more than just a matter of optimization. Applicants' have discovered how the three layered structures could be manufactured avoiding all the problems with the prior art.

Johnson appears to be the pivotal reference in all four of the examiner's rejections (outlined above), being the sole reference in rejections (1) (and (3), the "secondary" reference in rejection (2) and the "primary" reference in rejection (4).

However, in light of the above noted amendments (in particular, "consisting of") Johnson must fail in all four categories. The "consisting of" limits the claims to the presence of only the enumerated layers, simultaneously excluding any other primer coatings of adhesives taught by the prior art references.

Johnson has been discussed by applicants in their last amendment, and that discussion is here incorporated by reference. Johnson is directed a coating composition particularly for use in forming exterior finishes on the exterior of vehicle parts. Johnson's composite requires four layers, layer 2 (Figs.1 and 2), the second layer down, necessarily being a "paint layer" which includes a pigment. Applicants' claims are limited to three. Of course, the particular case of claim 2, i.e., the both sided layer, and of claim 3, the inclusion of an "intermediate layer," are similarly not within Johnson's scope.

Moreover, in all coatings taught by Johnson comprise organic liquids, polyesterourethanes and/or multifunctional organic polyisocyanate cross linking agents which are particularly avoided in applicants' invention. Stated simply, Johnson does not disclose or otherwise suggest applicants invention without an overabundance of forbidden hindsight.

It respectfully submitted that the examiner has not applied the proper product-by-process analysis. There must be a "product which **reasonably** appears to be either identical with or only slightly different than a product claimed in a product-by-process claim..." (emphasis added), *In re Brown*, 59 CCPA 1036, 1041, 459 F.2d 531, 535, 173 USPQ 685, 688 (1972). Applicants submit that applicants' claim, as now amended, do not **reasonably** include the subject matter of Johnson.

As already discussed above, Ellison, the primary reference of rejection (2), requires an adhesive layer which is to be specifically avoided by applicants' claimed invention, namely the "consisting of" clause. It is not apparent that the references would have motivated the skilled worker to modify Ellison -- who requires an adhesive -- from the teachings of Johnson's four layered structure, to come up with applicants' invention. Moreover, Ellison's "decorative" layer -- i.e. layer 13 -- is the *top* pigmented layer. Applicants' claims require the decorative layer to be over-coated as note the limitation, "a heat -cured layer applied [thereto]." Further, Ellison's layer 13 is pre-molded while applicants composite is molded in situ. Applicants' total layered composite is "remov[ed]...from the injection-molding chamber"

Regarding rejection (4), the examiner's posits that the Miyakoshi teaches that the styrene backing of Johnson is the "functional equivalent of the polybutylene terephthalate backing of applicants' claim 5. Be that as it may, however, the substitution of polybutylene terephthalate for the styrene backing of Johnson does not result in applicants' product for the reasons noted above regarding Johnson's teachings. Moreover, *obviousness* is the test, not *equivalence*. *In re Wright*, 343 F.2d 761, 145 USPQ 182 (CCPA 1965).

For the examiner's edification, included herewith are three samples of applicants product resulting from their method. Two samples comprise a red and white decorative layer, both strongly connected to a thermoplastic backing layer. Also included is a blue decorative layer which has been disconnected from its thermoplastic backing layer.

There is no trace of solvent, since such solvent is avoided in applicants' process.


One can feel how the surface of the thermoplastic backing layer is adjusted to the roughness of the heat-cured layer that is arranged under the decorative layer. Such roughness adjustment appears during the preparation of the layered composite material by means of the special injection molding process.

Accordingly, allowance is respectfully solicited.

Please find attached a check for \$410.00 for a two month extension of time.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Amend claims 1 and 2 as follows:

1. (three times amended) A layered composite useful for flooring coverings and wall panels with at least one decorative surface and consisting [essentially] of a backing layer of a reinforced thermoplastic polymer which is not polypropylene, a decorative layer arranged thereupon and a heat-cured layer applied to the decorative layer wherein the total thickness of the layered composite is from 1 to 20 mm and whose backing layer makes up at least 80% of the thickness wherein said reinforced thermoplastic polymer comprises polyethylene, polyvinyl chloride, polyesters, polycarbonates, polyacrylates, polymethacrylates, polyamide, polyurethane, a polyacetal and/or polystyrenes, which layered composite is prepared by heating said reinforced thermoplastic polymer to at least 180°C in an extruder and then, under a pressure of at least 80N/cm², introducing said heated reinforced thermoplastic polymer into an injection molding chamber of an injection-molding machine into which the films for the decorative layer and the heat cured layer and an optional [heat-cured layer and/or an] intermediate layer, applying to the layers in the injection-molding machine a holding pressure of at least 10 N/cm², while maintaining said pressure, cooling to a temperature not below 60°C for a period of not more than 4 minutes, and then

removing the layered composite from the injection-molding chamber.

2. (twice amended) A layered composite as claimed in claim 1, where a decorative layer and a heat-cured layer applied to the decorative layer are present on each side of the backing layer made from said reinforced thermoplastic polymer [reinforced] thermoplastic polymer.